

**Paper 9 – Operation Management  
& Strategic Management**

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Full Marks: 100

Time allowed: 3 hours

**Section – A**

**I. Answer all:** **[5×1=5]**

**1. Choose the correct answer:**

- (I) The starting point of production cycle is:
  - (A) Product design,
  - (B) Production Planning,
  - (C) Routing,
  - (D) Market Research.
  
- (II) Final stage of production planning, where production activities are coordinated and projected on a time scale is known as:
  - (A) Scheduling,
  - (B) Loading,
  - (C) Expediting,
  - (D) Routing.
  
- (III) Scheduling shows:
  - (A) Total cost of production,
  - (B) Total material cost,
  - (C) Which resource should do which job and when,
  - (D) The flow line of materials.
  
- (IV) The first stage of Production Control is:
  - (A) Dispatching,
  - (B) Scheduling,
  - (C) Routing,
  - (D) Triggering of production operations and observing the progress and record the deviation.
  
- (V) Routing and Scheduling becomes relatively complicated in
  - (A) Job production
  - (B) Batch production
  - (C) Flow production
  - (D) Mass production

**2. Match the products in Column I with the production centers in Column II:** **[7×1=7]**

I	II
(A) Electricity	(a) Blast Furnace
(B) Petrol	(b) Generator
(C) Iron	(c) Refinery
(D) Cloth	(d) Assembly Line
(E) Car	(e) Smithy
(F) Cotton Yarn	(f) Spinning Mill
(G) Forgings	(g) Power Loom

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**3. Answer the following queries:**

**[7×1=7]**

- (i) Do standard Times allow for relaxation of the Operators?
- (ii) Is a lift same as an elevator?
- (iii) Is the use of metric system of weights and measures compulsory in India?
- (iv) Can the shaping machine be considered a versatile machine tool?
- (v) Does the Factories Act in India allow the employment of women in all industries?
- (vi) Is Break-even analysis a management tool?
- (vii) Is Activity Sampling a technique of Job Evaluation?

**II. Answer any three:**

**[17×3=51]**

- 4. (a)** An investigation into the use of scooters in 5 towns has resulted in the following data: population in town.

Population in town (in lakhs)	(X)	4	6	7	10	13
No. of scooters	(Y)	4,400	6,600	5,700	8,000	10,300

Fit a linear regression of Y on X and estimate the number of scooters to be found in a town with a population of 16 lakhs. **[10]**

- (b)** What do you mean by capacity planning? What are the factors influencing effective capacity? **[2+5=7]**

- 5. (a)** The monthly requirement of raw material for a company is 3,000 units. The carrying cost is estimated to be 20% of the purchase price per unit, in addition to ₹2 per unit. The purchase price of raw material is ₹20 per unit. The ordering cost is ₹25 per order. (i) You are required to find EOQ. (ii) What is the total cost when company gets a concession of 5% on the purchase price if it orders 3,000 units or more but less than 6,000 units per month. (iii) What happens when the company gets a concession of 10% on the purchase price when it orders 6,000 units or more? (v) Which of the above three ways of orders the company should adopt? **[3+3+4+2=12]**

- (b)** What are the objectives of product designing? **[5]**

- 6. (a)** A captain of a cricket team has to allot five middle batting positions to five batsmen. The average runs scored by each batsman at these position are as follows:

		Batting Position				
		III	IV	V	VI	VII
Batsmen	A	40	40	35	25	50
	B	42	30	16	25	27
	C	50	48	40	60	50
	D	20	19	20	18	25
	E	58	60	59	55	53

Make the assignment so that the expected total average runs scored by these batsmen are maximum. **[8]**

- (b)** Customers arrive at a bakery at an average rate of 16 per hour on weekday morning. The arrival distribution can be described by a poisson distribution with a mean of 16. Each clerk can serve a customer in an average of three minutes; this time can be described by an exponential distribution with a mean of 3.0 minutes.

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- a. What are the arrival and service rates.
- b. compute the average number of customers being served at any time.
- c. c. Suppose it has been determined that the average number of customers waiting in line is 3.2. Compute the average number of customers in the system (i.e., waiting in line or being served), the average time customers wait in line, and the average time in the system.
- d. Determine the system utilization for  $M = 1, 2$  and 3 servers. **[2+2+2+3=9]**

7. (a) A project consists of seven activities. Activities P, Q, R run simultaneously. The relationships among the various activities is as follows:

Activity	Immediate Successor
P	S
Q	T
R	U

Activity "V is the last operation of the project and it is also immediate successor to S, T and U. Draw the network project. **[5]**

- (b) What do you mean by scheduling? Discuss the principles of 'Scheduling'. **[4+8=12]**

8. Write a note: **[5+5+7=17]**

- (a) JIT;
- (b) Advantages of Preventive Maintenance;
- (c) Factors affecting industrial productivity.

### Section – B: Strategic Management

- III. Answer all: **[6×1=6]**

9. Choose the correct answer:

- (i) Strategic analysis is concerned with stating the position of the organization in terms of:
  - (a) Mission, choice of market segments, product selection, financial targets, external appraisal;
  - (b) Mission, goals, corporate appraisal, position audit and gap analysis;
  - (c) Mission goals, identification of key competitors, SWOT and environmental appraisal;
  - (d) Mission, targeted ROI, manpower planning, position audit;
  - (e) Mission, SWOT, competitive strategies, stakeholders position and institutional goal.
- (ii) Mckinsey's 7-s framework consists of:
  - (a) Structure, strategy, software, skills, styles, staff and supervision.
  - (b) Structure, strategy, systems, skills, styles, syndication and shared values.
  - (c) Structure, strategy, systems, skills, steering power, styles and shared values.
  - (d) Structure, strategy, staff, skills, systems, shared values, super ordinate goal.
  - (e) None of the above.
- (iii) Offensive strategy is a strategy:
  - (a) For small companies that consider offensive attacks in the market.
  - (b) For those companies that search for new inventory opportunities to create competitive advantage.
  - (c) For the market leader who should attack the competitor by introducing new products that make existing one obsolete.

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- (d) For those companies who are strong in the market but no leaders and might capture a market share.
- (e) None of the above.
- (iv)** The product-market matrix comprising of strategies of Penetration, Market development, Product development and Diversification was first formulated by
- (a) Ansoff
- (b) Drucker
- (c) Porter
- (d) Prahalad
- (v)** A company's actual strategy is
- (a) mostly hidden to outside view and is known only to top-level managers
- (b) typically planned well in advance and usually deviates little from the planned set of actions and business approaches because of the risks of making on-the-spot changes.
- (c) Partly proactive and partly reactive to changing circumstances
- (d) Mostly a function of the strategies being used by rival companies (particularly those companies that are industry leaders)
- (vi)** Business Process Re-engineering is
- (a) Eliminating loss-making process;
- (b) Redesigning operational process;
- (c) Redesigning the product and services;
- (d) Recruiting the process engineers.

### IV. Answer any three:

**[8×3=24]**

- 10. (a)** Discuss the advantages of Strategic Management;
- (b)** Write a note on Formulation of Organizational Mission;
- (c)** Discuss "SWOT" Analysis;
- (d)** Write a note on Business Process Re-engineering.